

Amendment to the Claims:

1. (Currently Amended) An x-ray detector which includes:

(a) at least one conversion unit ~~[[1]]~~ for the absorption of x-ray quanta while generating an electric charge signal which corresponds to the absorbed energy,

(b) at least one evaluation unit ~~[[10]]~~ which has a pair of parallel channels for concurrently processing said charge signals, [[in]] the parallel channels including:

a counting counter channel ~~[[5]]~~ whose counter output ~~[[8]]~~ presents a measure of the which counts a number of charge signals detected since a beginning of a measurement interval, as well as, in parallel therewith, in and,

an integrator channel ~~[[7]]~~ whose integrator output ~~[[9]]~~ presents a measure of the which measures overall charge of the charge signals detected since ~~[[a]]~~ the beginning of the measurement interval;

(c) at least one data processing unit ~~[[11]]~~ which ~~processes the signals from the counter output [[8]] and from the integrator output [[9]] in combination so as to determines an the~~ absorbed quantity of x-rays from a combination of both the count of the number of charge signals from the counter channel and the overall charge measurement from the integrator channel.

2. (Currently Amended) The ~~An~~ x-ray detector as claimed in claim 1, ~~characterized in that wherein~~ the data processing unit ~~[[11]]~~ is arranged in such a manner that it attaches more weight to the signals from the counter ~~output~~ channel ~~[[8]]~~ than to the signals from the integrator ~~output~~ channel ~~[[9]]~~ in the case of for a low absorption rate of the x-ray quanta.

3. (Currently Amended) An x-ray detector ~~as claimed in claim 1, characterized in that~~ comprising:

5 (a) at least one conversion unit for the absorption of x-ray quanta while generating an electric charge signal which corresponds to the absorbed energy;

(b) at least one evaluation unit for processing said charge signal in a counting channel whose counter output presents a measure of a number of the charge signals detected since a beginning of measurement as well as, in parallel
10 therewith, in an integrator channel whose integrator output presents a measure of an overall charge of the charge signals detected since a beginning of measurement;

(c) at least one data processing unit which processes the signals from the counter output and from the
15 integrator output in combination so as to determine the absorbed quantity of x-rays, the data processing unit [[(11)]] ~~is~~ being arranged in such a manner that:

it attaches more weight to the signals
from the integrator output [[(9)]] than to the
20 signals from the counter output [[(8)]] in the case
of a high absorption rate of the x-ray quanta, and

it attaches more weight to the signals
from the counter output than to the signals from the
integrator output in the case of a low absorption
25 rate of the x-ray quanta.

4. (Currently Amended) ~~The An~~ x-ray detector as
claimed in claim 1, ~~characterized in that~~ wherein the data
processing unit [[(11)]] is arranged in such a manner that it
determines ~~the~~ a mean energy of the detected x-ray quanta from
5 the signals from the counter ~~output~~ channel [[(8)]] and the
signals from the integrator ~~output~~ channel [[(9)]].

5. (Currently Amended) ~~The An~~ x-ray detector as
claimed in claim 1, ~~characterized in that~~ wherein the evaluation
unit [[(10)]] includes an input amplifier [[(2)]] which
~~preprocesses~~ amplifies the charge signal presented by the
conversion unit [[(1),]] ~~notably amplifies it,~~ and conducts the

amplified signal ~~thus preprocessed~~ to the counting channel [[(5)]] and to the integrator channel [[(7)]].

6. (Currently Amended) The ~~An~~ x-ray detector as claimed in claim 1, ~~characterized in that it includes~~ further including:

5 ~~a plurality of conversion units [[(1)]] which are arranged so as to be distributed in one plane[[,]] that is, preferably in the form of a matrix.~~

7. (Currently Amended) The ~~An~~ x-ray detector as claimed in claim 6, ~~characterized in that~~ wherein each conversion unit [[(1)]] is associated with an evaluation unit [[(10)]] and a data processing unit [[(11)]], all evaluation units and data processing units being formed as microelectronic units on a common substrate.

8. (Original) A method of evaluating the absorption signals of an x-ray detector which is preferably arranged so as to face an x-ray source in a computed tomography apparatus, which method includes the following steps:

5 (a) counting the x-ray quanta absorbed by the x-ray detector in a time interval;

(b) integrating the absorption energies of the x-ray quanta absorbed in said time interval;

10 (c) determining the mean absorption energy of the x-ray quanta absorbed in said time interval from the measurements in steps (a) and (b);

(d) comparing the mean absorption energy from step (c) with the original emission spectrum of the x-ray source.

9. (Previously Cancelled)

10. (Currently Amended) An x-ray examination apparatus which includes an x-ray source for the emission of x-rays with an original x-ray spectrum and an x-ray detector, 5 with the x-ray detector including:

(a) at least one conversion unit $[(1)]$ for the absorption of x-ray quanta while generating an electric charge signal which corresponds to the absorbed energy;

(b) at least one evaluation unit $[(10)]$ for
10 processing said charge signal in parallel in:

a counting channel $[(5)]$ whose counter
output $[(8)]$ represents ~~presents~~ a measure of the
number of charge signals detected ~~since in a~~
~~beginning of measurement time interval, as well as,~~
15 ~~in parallel therewith, in~~

an integrator channel $[(7)]$ whose
integrator output $[(9)]$ represents ~~presents a~~
~~measure an integration of the absorbed energy of the~~
~~x-ray quanta detected in the overall charge of the~~
20 ~~charge signals detected since a beginning of~~
~~measurement time interval,~~

(c) at least one data processing unit $[(11)]$
which:

processes the signals from the counter
25 output $[(8)]$ and from the integrator output
 $[(9)]$ in combination ~~so as~~ to determine the
~~absorbed quantity of x-rays~~ mean absorbed energy of
the x-ray quanta absorbed in the measurement time
interval, and

30 comparing the mean absorbed energy in the
measurement time interval with the original spectrum
of the x-ray source.